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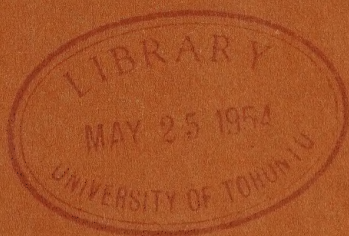
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BROADCASTS

on Apprenticeship



FEDERAL DEPARTMENT OF LABOUR

MILTON F. GREGG,
Minister

A. H. BROWN,
Deputy Minister

FOREWORD

With a view to increasing public awareness of the need for developing more apprenticeship training opportunities in Canada, the Information Branch of the Federal Department of Labour, late in 1953, invited six leading Canadians to discuss the subject on the Department's weekly radio program "Canada at Work", carried regularly by 50 independent radio stations from coast to coast. With the assistance of the Unemployment Insurance Commission, particularly at Local Employment Office level, and apprenticeship authorities in all provinces, the co-operation of 20 additional radio stations was obtained, so that a total of 70 carried the series free of charge as a public service to their communities. Following the broadcasts more than 3,000 scripts were sent out in answer to requests from listeners. Subsequently, it was recommended by the National Advisory Committee on apprenticeship that these talks be published and given a broad distribution to those most concerned with the supply and demand for skilled workers.

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The Place of Training in Industry

by W. H. CLARK

*Vice-President, Industrial Relations,
The Ford Motor Company of Canada*

We Canadians are becoming more and more aware that our country is in the midst of a tremendous development . . . a development which promises to surpass that enjoyed by any other country.

An expanding economy affects every phase of industrial activity — manufacturing, selling, finance, and so on. I don't know anywhere, however, where the impact is quite so forceful as in the field of training.

Canada's population is expected to increase by some 9 million people in the next 25 years. This represents an increase of approximately 65 per cent, a rate of about $2\frac{1}{2}$ per cent per year. It is reasonable to expect that industry will expand at a corresponding rate, with the result that, in manufacturing industries alone, we can expect 30,000 jobs to be created each year in Canada. In addition, of course, we have the constant flow of replacements coming into industry to take the place of those who retire or leave the labour force for other reasons.

Even if training were a static thing and we were concerned only with carrying out the programs we already have, the entrance of all these new people into employment, in itself, poses a major undertaking for all of us. But training is not static. New and better methods are constantly being developed and put into operation. We are concerned not only with the training of new employees, but with better ways of training our present employees.

We all know that natural resources, in the form of men and materials, do not by themselves ensure prosperity and a high standard of living. Iron ore that remains in the ground, waters that rush by without being harnessed to provide electric power, men who know only how to hew wood and draw water can never make a country strong and prosperous. Before we can take advantage of our material resources, we must have the skills, the experience and the know-how to convert them into the things we need.

Those of us who are in industry, have a special responsibility — that is, to do everything we possibly can to achieve greater productivity. It will help us Canadians little if, in spite of our country's expanding population and resources, we do not increase our productivity. If, when Canada has

doubled its population, twice as many people produce only twice as much as we are producing now . . . well, we are not going to be any better off then than we are today.

Increased productivity depends on many things and on many different groups of people. We must depend on our engineers and scientists to develop better machines and better methods. We must depend on our accountants, sales force, purchasing people and many others to make certain that our products reach the market the way our customers want them, at as low a price as possible.

That still places considerable responsibility on the shoulders of the training man. The employee who operates a machine must be taught how to operate that machine as efficiently and as effectively as possible. He must be taught how to work safely. He must be taught that he is part of a team and that the success of his team depends on the efforts of every member. He must be made to know what his company expects from him and what he can expect from his company. Members of supervision must be taught how to do their jobs most effectively. They must learn the technical skills which they require and the particular skills in human relations they need as members of supervision. The latest techniques for building a co-operative, productive team must be constantly brought to their attention.

Many of these things, of course, are learned before an employee enters industry. Our schools and colleges are doing an excellent job of teaching in many areas, particularly where technical skills are involved. Engineers, chemists, typists and many other workers who come to us enter industry with first class qualifications which require a minimum of specialized training. All of this is to the good and makes our job just that much easier. It is our job to take over where schools and universities stop and to provide whatever additional training is necessary to equip an employee to do his job in the best way possible.

Any manufacturing industry planning to grow and progress requires a supply of employees possessing a high degree of technical skill. This is particularly true of the automobile business. An automobile manufacturer's ability to turn out attractive new models depends in no small measure on his ability to obtain toolmakers and skilled tool machine operators. Toolmakers cannot be trained overnight and seem to be in perpetually short supply on the labour market.

That is why, since 1937, we at Ford of Canada have operated our own trade school to train young men in tool and die making and other related trades. This was the first trade school in Canada to be recognized as a technical institute by the American Society of Tool Engineers.

Courses in our trade school are four years in length, with the first three years of training conducted in a separate trade school building. During the fourth year the students are located in the company's plants.

Students who are enrolled in our trade school are selected by means of written applications, personal interviews and tests, from young men between 16 and 21 years of age who have completed at least four years of high school or technical school. Each year we receive applications from coast to coast. At present we have 97 students in the trade school and a further 31 taking their final years of training in the plants.

We have found that, while the trade school is an important source of employees who are trained in toolmaking and other skills, it also provides employees for other departments of the company. For example, graduates of our trade school have been employed in engineering, safety, purchasing and other departments, and have found their trade school training extremely valuable in preparing them for their jobs. Forty-three graduates of the trade school are presently employed as supervisors within our company.

A great deal of our company's training is naturally concentrated in the industrial relations division itself.

Over the past few years our training department has developed and conducted a multitude of training programs to meet specific requirements in the various divisions of the company. A few, selected at random, include effective writing, special drivers' training courses, inventory training, business correspondence and letter layout, advanced typing techniques, speech improvement and effective speech, human relations, safety and cost control.

Some of these programs cover a relatively small number of company employees while others may take in several hundred. For example, safety and human relations programs were conducted for all members of supervision—more than 900 individuals. The courses on typing techniques, business correspondence and filing were given to all female office employees. Courses on inventory were given to the employees concerned from coast to coast.

I believe the most important training requirement we have in industry today is the training of supervision.

Few jobs in industry have increased in complexity and difficulty to the same degree as the jobs of our supervisors. This is perhaps best exemplified right in our company. In 1905 we had only 16 employees on our payroll and supervision was a comparatively simple problem. A foreman became a foreman because he possessed a high degree of know-how on his job. He knew both his men and his bosses personally and well. He was a craftsman and his men respected him as such and followed his lead on the job.

Since then, however, the foreman's job has become increasingly difficult and exacting. He has had to learn more and more about subjects which troubled him little in 1905—complex technical processes, quality and waste control, cost control, planning and scheduling, and the clauses of union agreements and how to interpret them.

In addition, the foreman still has to meet his primary responsibility of directing human effort to produce quality goods at a low unit cost; and he has to achieve this objective, not by driving labour, but by improving methods, combining processes, rearranging work layouts, eliminating waste motion, simplifying procedures.

Each supervisor, to do his job effectively, must learn to work with his people, not in the tradition of the old bull-of-the-woods foreman, but as a leader—a leader who can accomplish results because his workers realize it is in their own interests to accomplish those results. We must develop, through our supervisors, a more desirable motivation than fear.

I regard those men in industry whose business is training as a privileged group. If they are men of conviction and of high purpose and courage, their influence will pervade the whole structure of our industrial organizations for good. But, if they are not big enough to lead the way, they will become mere apologists for old errors and ways of handling men, and our country and the type of economy we believe in will be poorer for their failure.

You may feel that I ask a great deal of training people. I do, but I am convinced that a less challenging view of their work would undersell their vocation and discount the important part they play in the affairs of our country. All of us, whether we are workers on the farm, in the mines and forests, whether we are occupied in duties at home or are employed in industry itself, have a vital interest in how well training is carried on in industry. Better training methods lead to more efficient and more productive operations. The end result is a greater flow of products at reasonable prices. This benefits us all. Only by the best use of training in industry can we Canadians hope to achieve the highest possible standard of living.

Are Employers Lethargic About Apprenticeship ?

by JOSEPH M. PIGOTT

Pigott Construction Company Ltd., Hamilton

The theme of this short talk is this—we need more people—more interested people—and particularly more skilled people.

Skilled people are not, as a rule, immigrants. Our materials and methods are different in Canada. Our requirements are different. Mere population—that is, people—can be dealt with by immigration or a greatly increased natural growth—but skilled men and women have to be trained.

To train people involves much more than is probably realized. Schools can be created—trade training centres established—Government sponsored apprenticeship systems set up and financed from public funds—but all this effort and money is so much waste *if the field of employment* is not made available. The participation of employers is a paramount condition—opportunity of learner employment is *absolutely essential* to training skills.

The teaching of a growing nation's youth is only made possible by a partnership of school and job. The work of the hands, the atmosphere of job conditions, plus the teaching of the technical side of it all—that is the only way to teach trades or develop skilled men and women.

There is a growing awareness just now of the part employers must play in this. It is evidenced by the time given on various conference agenda during the past year; the articles and editorials that are appearing; the growing number of large industries that at last are instituting apprenticeship courses of their own — General Motors; General Electric; railroad systems — even insurance companies and textile companies.

While I am aware of the problem that is presently existing in all industry, I am more directly concerned with construction. If I touch on the situation existing in the building trades, it is because I speak with some authority and not because shortage of skilled men is peculiar in any way to us.

Almost everyone familiar with English literature, or for that matter, German, Italian or French, is well aware of the traditional methods of perpetuating the skills and crafts of our forefathers. They know that even in America and Canada, education as we know it is only a development of the last sixty years. Previous to that, education was classical in character and

only available to the aristocracy. Young men were apprenticed to master craftsmen—whether it was masonry, woodworking, weaving, ironmongering—or even making ale and spirits.

Of course, the industrial age brought about many changes. One of them was the drafting of young people into industry. Another was the flow of immigrants from the Old Lands. In any event, by the 1920's the old methods had disappeared. Immigration from the British Isles provided a ready supply of mechanics. Then immigration almost stopped. The construction industry was expanding. By 1921 we were in trouble. From that time on, construction organizations and labour unions have endeavoured to restore the old apprenticeship systems. In 1928 they persuaded the Ontario Government to pass the Ontario Apprenticeship Act. This Act, or acts very similar, now exist in most of the provinces in Canada, assisted by the Federal Department of Labour.

In Ontario in the last twenty-five years some six thousand journeymen have been graduated and after the last war some four thousand returned soldiers were also trained and fed into the ranks. Today in Ontario we have 2,600 boys in training. We should have 10,000. In Canada as a whole, not over one-fourth the number required to keep these construction trades alive are in training.

Governments, both federal and provincial, are spending large budgets to provide the school and trade training. The boys are available for at least a great part of the number. It is understandable that only the swelling of numbers will prove out the capacity of supply. *What then is the reason this very important work makes so little progress?*

The answer lies largely in the apathy of employers. The strange part of this is that employers are well aware of the seriousness of the conditions and are sympathetic to the plans and efforts being made to cope with it—but they seem to be just too busy with their construction problems, which are undoubtedly heavy, to get into the work on the scale that is required.

That apathy exists is not mere opinion. A study was made last year in the Toronto area to establish the extent of practical co-operation. This was the result. In two trades—carpentry and bricklaying (which are more or less basic) over a period of twenty-five years:—

- 10 contractors trained 282—average each 28·2 or about 1 a year;
- 10 contractors trained 105—average each 10·5 or 1 every 2½ years;
- 59 contractors trained 154—average each 2·6; and
- 38 contractors trained none at all in that time.

Perhaps some fail to realize that the old practice of one or two apprentices is still the extent of co-operation. They just can't realize that some employers have as many as 20 or 25 as a steady load. Certainly with the larger employers, 10 is not too big a goal.

It is hard to understand how so many fail to see in this work far more than the creation of a more adequate supply of skilled workers. It is a fact that for some years in Canada, in the construction field, it has just not been possible to pick up foremen, superintendents and leaders, from the streets. Organizations have to be built up. They must be developed from the young. Potentially they are the real assets of any construction organization. Some companies do not stop with the apprenticeship work, but carry on adult training in the more important roles, so important in the field and in the office.

The question must arise in the minds of some—how has it been possible to keep on building? How can such great programmes be carried out when the problem of supply of skilled labour is so acute. The answer will be found in the development of new materials and processes. These in turn have added greatly to the cost of construction.

There are some people who see nothing undesirable in the changes that are taking place. Without giving thought, they feel that buildings will go up in any event—if not out of the traditional materials built in by the skilled trades, then by aluminum, glass, stainless steel, factory-assembled units. If this is, in fact, the attitude of any substantial number of people, then we have to assume that high cost does not bother them—not only cost of machine-made substitutes, but ever-growing higher costs in the whole field of construction, but what is more important, is that they apparently assume that a country does not need skilled men; machines will replace them. They forget that a journeyman carpenter, for instance, has a trained mechanical mind and he has expert fingers; that he is a real asset to his country because he has flexibility; he can adjust his training and skills to new requirements. In times of national stress his adaptability is beyond appraisal.

What has been said about trades in construction applies in almost all fields of employment.

“Out of a total of 709 plants surveyed in three industry groups, only 88 plants had organized training programs. In the iron and steel group, 57 plants out of 473 plants surveyed had training programs. In electrical apparatus, 9 plants out of 107 plants surveyed had training programs. In transportation products, 22 plants out of 129 plants surveyed had training programs. This reveals that a relatively small percentage of the number of firms in these industries are bearing the cost of all the training being undertaken in the industry.

“The survey reveals an almost microscopic percentage of the industry’s total number of production workers are being trained by industry for skilled jobs. Only a little over one per cent of all production workers in the iron and steel industry are receiving organized trade training. In the transportation products industry, our estimate is 6/10 of one per cent; while in electrical apparatus and supplies it is 1½ per cent. In terms of numbers, for these three industries combined, only some 3,000 out of a total of 300,000 production workers are receiving organized trade training.”

It would seem clear, therefore, that the neglect is general.

The promotion of this work amongst employers needs immediate attention. The best way to promote new interest is undoubtedly personal contact by qualified men of the right type. No doubt publicity in the press; by radio; by moving pictures and television will greatly assist, but it does seem to be necessary to sit down with the right executives to line up practical interest and get results.

It should be pointed out that with the competition of highly paid unskilled young men in certain industries, it is quite possible that, when employers have been sold and interested to the point of starting courses, a shortage of apprentices may easily develop. This should be anticipated and plans made through the Department of Education at all levels and the Employment Service system to work for the recruitment of the right types, so that the plans developed do not fall down. The main effort should be on the employers. I do not anticipate difficulty in the other field.

Our country is developing more rapidly as year follows year. The employers in industry I am sure are alert and forward thinking. Their interest must be aroused.

It is already late in the day to face the solution of troubles such as these in our industrial life. Let us hope that, through well planned and directed promotion, employers will face up to the problem, making their plans on broad practical lines. It seems certain that with proper forces trained into the necessary skills, there can be no doubt of the continued expansion of Canadian industry and an increasing prestige for the country generally.

Where Do Our Skilled Tradesmen Come From ?

by L. J. SPARROW

*Supervisor of Apprenticeship,
Canadian General Electric Company, Peterborough*

Ladies and gentlemen; I'm going to talk to you about our skilled tradesmen and where they come from. At the present time there's a lack of apprenticeship training in Canadian industry, with the resultant shortage of skilled men in nearly all trades. In these highly mechanized times, well qualified tradesmen are in great demand and the continued shortage of these craftsmen will affect the lives of all of us. Something must be done in the near future to increase the supply of well-trained men for Canadian industry.

Let me explain the details. During the past decade we have witnessed a phenomenal industrial expansion throughout Canada. This great country, with its small population of only fourteen to fifteen million people, now ranks third among the industrial nations of the world, only being surpassed by the United States and Great Britain. This is a great achievement and even more remarkable when we look back to 1939 and realize that we have about doubled our industrial capacity since that time. This industrial expansion is still going on. We are again witnessing vast reorganizational programs taking place in many of our major industries. And it is predicted that we may expect many industries to about double their present size during the next ten years.

In our rich country, there is an almost unlimited supply of natural resources. And we are fortunate indeed that we also have considerable hydro-electric power available with which to develop these huge resources. I believe we can safely say that our prosperity largely depends upon our ability to develop our natural resources. And to further increase our prosperity, we must continue to develop these natural resources and manufacture more and more of our raw materials into finished products in our Canadian factories.

This will require many more thousands of skilled tradesmen; tradesmen who will help to build the hydro-electric power plants and huge dams to harness the water power; skilled men in the numerous construction and building trades, who will build the new factories which will manufacture our raw materials into finished products; skilled men to build the homes to house the workers in the factories; and qualified tradesmen to apply their craft in all of our many diversified industries. We can rightfully say that the future

prosperity and security of our country will, in a large measure, depend upon whether we have a sufficient number of qualified men in all of the essential trades.

I often wonder if we fully realize how much of our present way of living has been made possible through the skill and ingenuity of our tradesmen. I'm now privileged to speak to you on this "Canada at Work" radio program, over a coast-to-coast network, because in recent years skilled Canadian craftsmen, technicians and engineers have combined their many diversified abilities to design, build and maintain this huge radio transmitting system. The millions of radio and television sets, which provide countless hours of entertainment in our homes, are to a large extent the products of the technicians and tradesmen in our factories.

Increased productivity in our manufacturing industries has kept prices within our ability to pay. This is why so many Canadian homes have laundry equipment, such as washing machines, clothes driers and ironers, electric refrigerators, automatic heating systems, and other home appliances which reduce manual labour and make our lives more pleasant. Increased productivity in the automobile industry has produced cars at a price within the reach of millions of Canadian families. This increased productivity has been made possible through the introduction of new and complicated machines into our manufacturing plants.

When we consider that the work of tradesmen is to design, make and maintain all of this new and complicated machinery in industry, we are impressed by the fact that it is essential for Canada to have an adequate skilled work force. In a recent publication, the Federal Department of Labour stated that it is estimated Canadian industry needs 30,000 apprentices for trades right now. If this is related to our total civilian work force of 5,321,000, it means that we should start one additional apprentice for every 177 workers in Canada. The number of young men now serving an apprenticeship is too few to meet the present need, much less to satisfy the future demands of our industrial expansion. This is a serious problem, and the solution of this problem is the concern of all of us because a continued shortage of qualified tradesmen will affect our future prosperity, our standard of living and our security.

How are we going to obtain more skilled tradesmen? In the past, we relied largely upon immigration as a source of supply of technicians and craftsmen for our industries. For many years this supply supplemented by a limited number of tradesmen trained through apprenticeship in Canada was sufficient to take care of our skilled manpower needs.

The start of World War II, in 1939, immediately cut off the supply of tradesmen obtained through immigration and we then had to rely entirely upon apprenticeship training in Canadian industry. The number of men

being trained for the essential trades through apprenticeship was inadequate, and we had to resort to emergency training programs, and the cost of production was increased as a result.

Today, in 1953, 14 years later, our manufacturing industry is vastly expanded. We can and do obtain some competent men through immigration and we are training additional tradesmen through apprenticeship in industry. However, a serious shortage of skilled tradesmen still exists and we must overcome this shortage. Where will we obtain our craftsmen for future years? For hundreds of years young men have learned skills, arts and crafts through the apprentice training system, and I think you will agree that apprenticeship to a trade is still the best way to produce a fully competent tradesman. I believe that a well-planned and co-ordinated vocational education and apprenticeship system is the only real and lasting solution to the skilled labour shortage problem in Canada. Education and apprenticeship takes time, many years of time. Therefore we cannot afford to delay our educational and apprenticeship training plans.

We should institute a system of related trade classroom training on a uniform basis throughout all the vocational and technical schools in each province, and young men who successfully complete the classroom training should be presented with certificates which will have national recognition. A system for technical classroom training in Canada, similar to the British national certificate system, would encourage many more young men to continue their technical education long after they have left high school. Where suitable schools are not available, related trade training should be made available through correspondence courses.

The practical work experiences can best be obtained in our industries or factories through on-the-job training. One very fertile field for this training lies with the thousands of smaller companies throughout Canada who can individually or collectively provide adequate apprenticeship training facilities to many more young men who are seeking such opportunities. I believe that we should strive for uniform standards of trade training and proficiency which will permit tradesmen to practice their trade in any part of Canada without the necessity of requalifying at their trade when they seek work in another province.

The wholehearted co-operation of national employer organizations and national union organizations can do much to solve this problem. Well-organized apprenticeship training program will provide advantages and benefits to our young men, our industries and our country as a whole. Young men graduating from our high schools and technical schools will have a broader choice of a career when they commence work.

Many of you listening to me now will know of instances where young men finished school with good standing and were then discouraged when they were unable to find a suitable opportunity for continuing their education

in the world of work. These young men sometimes take jobs which could be filled by persons with lower educational qualifications, and as a result they become dissatisfied at their work. One solution to this problem would be for local industries to review their existing training facilities and they may be able to provide excellent training opportunities to these young men to start them upon an industrial career by establishing apprenticeship training systems in their factories or shops. Through uniform apprenticeship training and the establishment of trades standards, young men can be trained to become our future tradesmen who may apply their skills across this vast country and so have broader opportunities to progress to positions of greater responsibility. Increased apprenticeship training will also be a real value to our manufacturers and those people in our industries who select men for upgrading to foremen and supervisory positions. An increased number of tradesmen will provide a larger pool of potential leaders, from which men can be chosen for future training promotions.

In conclusion, ladies and gentlemen, may I sum up my remarks very briefly. One, a definite shortage of skilled manpower exists in Canada today and is hampering our industrial expansion. Two, we need more skilled tradesmen to develop our natural resources which in turn will increase our prosperity and our standard of living. A lack of trained manpower will lower our standard of living and even endanger the security of our country. We can readily train more of our own Canadian boys to become future skilled tradesmen by setting up uniform standards of technical and trade training with national recognition, and by increasing the number of apprenticeship training systems in our industries. If this is done, production will be further increased and we can look forward to even greater prosperity and a higher standard of living for all of us.

Ladies and gentlemen, our future skilled tradesmen are our sons and other boys who are now attending our vocational schools and high schools. I know that all of you who have listened to me will want to give these boys increased freedom of opportunity when they graduate from school. Under the free enterprise system, our industry has rapidly expanded. I feel sure that we will accept our obligations to our young men and provide increased apprenticeship training accommodation in our expanded industries for those who seek to become our future skilled tradesmen.

What Is a Journeyman ?

by PERCY R. BENGOUGH

*President, The Trades and Labour Congress of Canada;
Chairman, National Apprenticeship Advisory Committee*

What is a Journeyman?

Originally this word was used by the tailors in England and applied only to a tailor travelling in search of work. Later it was applied to journey-men tailors who were not necessarily travelling but who were competent tailors capable of making a good suit of clothes. Today the term journeyman is used in a number of other trades to differentiate a competent mechanic or skilled tradesman from a specialist trained to perform only one or two operations in a given branch of industry.

There are many skilled trades, however, who do not use the term journeyman to define a first class tradesman or skilled craftsman. For this reason, I would prefer to deal with it in its broadest sense; as a skilled mechanic or craftsman who could be following any of the skilled trades, competent and fully trained, with the necessary knowledge and skill, to perform the duties of fashioning material to the required shape, building in stone, brick, metal or wood or any construction as the case may be.

The standard of life we enjoy, and are part of, would not be possible without the application of skilled labour and competent craftsmen. All of the material things that make a home, the sky line of our cities, railways, highways, ships and planes, schools and churches are monuments to skilled labour and are direct results of the applied labour of skilled craftsmen.

None can believe that we will need less skilled artisans in Canada in the future than we have in the past. Changing as we have been from an agricultural to a rapidly increasing industrial country, it is quite safe to foretell that the future needs of Canada will be for more and more skilled workers. Where are we going to get them is a fair question. We can import them or we can train our own boys. Many have a natural bent in mechanical and building directions but to follow through properly such things as the ability to read blue prints and plans, and a knowledge of mathematics must be attained through study to complement the know-how.

The proven and accepted best method of training is by apprenticeship. Quite a lot has been done in Canada in training apprentices.

As early as 1882 The Trades and Labour Council of the City of Toronto went on record as requesting: "The enactment of an indentured Apprenticeship Act that shall compel apprentices to serve the prescribed trade limit of time at his or her business and that will also compel employers to teach apprentices at any skilled trade or occupation his or her business in a proper manner."

This shows that over seventy years ago thought was given to the need of apprenticeship training in order to have skilled workmen. Unquestionably the type of indentured apprentice that they had in mind at that time was the old time British system. Naturally, we would not be in favour of that today. There were many evils which arose from it; somewhat akin to a prison sentence.

Parents in those days were generally called upon to pay a substantial down payment—around £25—a lot of money in those days; and the wages of the apprentice during his period of apprenticeship was 5 shillings a week for the first year, increasing 2 shillings a week each year until he completed the term of apprenticeship and "came out of his time". That was the term used and it was just about right. Needless to say we look for better treatment for apprentices today.

The records of our Movement show the apprenticeship question to have been a fairly continuing one and progress has been made. I would say slow, mainly owing to the fact that our industrial economy was somewhat limited.

Many of our affiliated organizations have had, and still have clauses in their agreements setting out the ratio of apprentices to the number of journeymen or craftsmen employed. The idea of such a clause is, again, protection of the apprentice. Years ago many lines of industry with a limited number of employment opportunities were given to taking on more learners than conditions justified with the result that after a year or so some of the young people were laid off in periods of slackness without having received the training expected and the ones who were retained until the completion of their agreed term found themselves in a trade for which there was little demand for their services.

Thirty years ago, many of the construction trades affiliated with The Trades and Labour Congress of Canada carried on quite a campaign to secure protective legislation for the apprentice so that he would really be an apprentice: not just a husky boy taken on for odd jobs, but who would have a fair opportunity of learning his chosen trade.

Mr. Ernest Ingles, now retired, was Canadian Vice-President of the International Brotherhood of Electrical Workers at that time and did really valuable work in pressing the need of an apprenticeship system. The result was the Ontario apprenticeship system which came into operation in 1928. Other provinces have since enacted similar legislation. Our railroads, construction and other industries in many cities have advanced the cause of apprenticeship training.

The new impetus now being given to this particular question is a result of Canada's rapidly expanding industry. New manufacturing plants being erected in almost all of our cities, coupled with the vast development projects both undertaken and contemplated, compel a look to the future and to Canada's needs for properly trained and skilled artisans. Everyone will agree that our first obligation at this time is to give our own boys the opportunity of training.

Believing that the future success of apprenticeship would be further advanced by closer co-operation of all directly concerned, the Federal Government has set up the National Apprenticeship Training Advisory Committee composed of the provincial government officers responsible for apprenticeship training in the various provinces, and representatives of Canadian industry and organized labour. The primary objective of this committee is to reach an understanding with all parties interested in instituting national standards of apprenticeship and training in trades for which employment opportunities can reasonably be expected to increase.

Many of our provincial governments are doing a creditable job, and have appointed advisory boards and committees composed of an equal number of employers and workers as well as representatives of provincial departments of labour and education. In many instances there is an advisory committee dealing with each particular trade.

The indenture or agreement that is required for the apprentice protects both the employer and the apprentice, and sets out the minimum rate of wages with periodic increases, and the length of apprenticeship. This varies, the period is not the same in all trades or in all provinces, or for the same trade. There is a spread of from two to six years.

Apprentices may be indentured to an employer, to an industry, or to any other responsible organization at the direction of the provincial authorities dealing with apprenticeship training. Each apprentice serves a probationary period of three months. This is counted as time served when the agreement is signed. Credits are based on proficiency and are given for previous experience and also for pre-apprenticeship training in vocational schools.

Provision is made for cancellation of the agreements made for cause and for the transfer of apprentices from one employer to another.

Schedules of training are drawn up for each trade covering trade skills and compulsory school attendance. Where day or evening classes are not available correspondence courses can be used. In the construction trades in some cities both the employers and the union directly concerned have established a system of scholarships that have been really worth while. Again, provincial governments have apprentice field supervisors to visit the apprentices periodically and assist them in problems of training on-the-job. Over and above that the supervisors arrange for placements, school attendance, transfers if necessary, and completion of agreements.

While, as stated, a considerable amount has been done in Canada with a view to having "home grown" skilled workers to fill Canada's future needs; many of those directly concerned believe that the future success of apprenticeship needs closer co-operation between the trade unions, employers' associations and all governments through their respective departments of labour and education.

Actually the idea back of the formation of the National Apprenticeship Training Advisory Committee is that it would provide a medium for getting information on what has been found to be the best procedure in the various provinces, to exchange ideas; and to arrive at the best methods that can possibly be put into operation in order that first class journeymen and mechanics may become fully qualified and properly trained to carry on the development of this great country. This is definitely an objective in the best interests of our future craftsmen, of our industry — including both management and labour — and of the general advancement of Canada.

What Is Apprenticeship ?

by J. D. FERGUSON

Canadian Manufacturers' Association

When I was approached by officials of the Federal Department of Labour to prepare a broadcast on the subject "What is Apprenticeship?", I was quite aware of the fact that the rapid expansion of industry in Canada, particularly since the ending of the Second World War, had placed us in the peculiar position of being a world industrial power without a national program in this important field.

When we speak of apprenticeship, I think we should be quite clear in our minds what we mean by the term. A great deal of confusion has existed in the minds of employers, governments and the public in regard to this.

Our definition of apprenticeship is the acquiring, by a balanced program of instruction, of a more than ordinary skill in a particular trade. Our definition of an apprentice is a young man who possesses a strongly developed desire to master such a skill and who is prepared to devote the first three, four or even five years of his life in industry to this purpose.

Total these ingredients and what do we get? A course of training, preferably indentured, taken over a period of at least 4,000 hours — the course to be based on proven methods of imparting instruction, with co-ordinated schedules of on-the-job training and the teaching of related academic subjects. Such a program would be undertaken by technically-minded young men who have completed their secondary school education. The whole would lead to journeyman standing or its equivalent in the trade selected.

Is there scope for a wider appreciation by manufacturers of this problem of apprenticeship training? In my opinion, the answer is definitely yes! Surveys made by the Federal Department of Labour reveal that while there are in Canada a number of plants which operate well-organized apprenticeship courses, this number represents but a small proportion of our total manufacturing industry.

In considering why this is the case, we must think of manufacturing in Canada historically in order to find the relationship between industry and apprenticeship. In the United Kingdom, manufacturing ante-dates the Canadian pattern by a century or more. During this period, the products of British plants acquired a reputation, disputed by no one, for workmanship.

In order to reach this goal, skills of the highest order were required and, from this, the indentured apprenticeship system grew and flourished. How often have we heard, in reference to the excellence of some craftsman, the expression: "He served his apprenticeship on the Clyde?" The skill of the craftsman, the interest of employers, the prestige attached to mastery of a difficult trade, all had their effect on the young man who intended to make a success of his life.

In Canada, manufacturing may be said to have become economically important at the turn of the century. The skills which were required at that time were, in the main, supplied by the hands of Old Country craftsmen who, due to the ebb and flow of Britain's trade, felt impelled to seek wider opportunities in Canada and emigrated here in considerable numbers.

The First World War provided a further stimulus to manufacturing in Canada, which carried into the post-war period. Many of the men whom I have mentioned were, at this later period, still very much in evidence in the industrial scene. They were then passing on, in practical fashion, the skills of which they were the masters. These skills were acquired by the younger generation through a system of upgrading, which became almost scientific in its application—and so the production requirements of that era also were met.

Since the Second World War, the needs of the tremendous industrial expansion which we are experiencing continue to be almost met by the system which I have described, strengthened by the intake of technically-minded young men produced by a rapidly improving educational system and by a steady flow of skilled workmen from both the United Kingdom and Europe.

I say "almost met" and this is where our thoughts turn to a proper apprenticeship system, a system as *standard* as it is possible to get, for the acquisition of not only the old basic skills, but of the new ones which technological advancement is heaping on our laps. I emphasize the term "standard" because it is inconceivable that a skill acquired by diligence and long study by a young Canadian in, say, Ontario, should not be equally acceptable whether he stays in Ontario or decides to try his fortune in British Columbia or Nova Scotia.

This calls, first, for an educational program, on as wide a scale as possible, to promote an awareness of the value of apprenticeship to the community, to the young employee and to industry. The tendency of students of our secondary schools to quit their studies prematurely—in many cases attracted by the high wages of today, and giving little thought to the importance which the completion of formal education could play in their future, is one which must cause serious concern to every thinking Canadian.

Secondly, it calls for the recognition of the need for a properly developed apprenticeship system on a national scale. This, also, is a matter for education.

Thirdly, when recognition of this matter *has* been won, *then* it calls for the development *by industry* of standard and tested course outlines of on-the-job instruction in those trades which are basic or which will become so. The co-ordination therewith of those academic subjects which must be part and parcel of any proper apprenticeship scheme, requires the full co-operation, at this stage, of the educational authorities.

I refer to the development of standard course outlines *by industry*, because I feel that industry itself is the best judge of what it wants. It is also the most keenly interested observer of technical progress. It can most readily get down to "brass tacks" when it comes to implementing an apprenticeship system which, while basically standard, must retain flexibility to meet industry's ever-changing needs.

Evidence of the soundness of this reasoning can be found in Ontario where a group, representative of industry and the technical side of our schools, has, with the co-operation of the Canadian Manufacturers' Association, produced course outlines for several basic trades. These outlines are designed for adoption by any plant, large or small, and are the most adaptable where facilities for related subject training are available in the form of technical schools. With these course outlines go standard forms of agreement and indenture, progress reports by shop and school, and a form of diploma which is issued by the employer, or jointly by the employer and school, upon completion. These "package plans", as they are called, are already meeting with widespread acceptance in Ontario and are arousing considerable interest in other provinces. In this connection, I must give credit to the Federal Department of Labour for the work it is doing in making these "package plans" available for study across the country, and I express the hope that this interest will not only be continued but be given even more practical expression.

I do not wish to convey the impression that Ontario is the only province which is pursuing this problem. On the contrary, I would like to point out that in Quebec the active participation of industry in apprenticeship training is being achieved by training-on-the-job and the widespread development of the Trade School principle. This seems to be meeting with general acceptance by management and labour. These trade schools, apart from those entirely under provincial jurisdiction, are administered and financed by the parties chiefly concerned, with generous assistance from the appropriate department of the provincial government.

In addition, in British Columbia the in-plant apprenticeship training program has been operating with success for many years. Since 1946 the metal trades industry there has, with the co-operation of the Provincial Government and the educational authorities, developed courses in the more established factory trades along lines similar to those which I have outlined, and these, I am told, are now recognized as an integral part of the training of our young people in that Province.

Whether or not the future development of apprenticeship lies in the Trade School principle or the in-plant training program to which my previous remarks have largely been confined, I do suggest that my observations regarding the need for *standardization* of such training are equally applicable.

It must be realized though, that nothing can be gained and a great deal can be lost by being "too far ahead of the game". This is why I suggest that governments can do their part as a public service, by educating employers, prospective employees and the public, to the desirability of apprenticeship as an honourable and worthwhile endeavour on the part of the young men of this country and also as a sound, reliable method of meeting what may otherwise develop into a serious shortage of skilled workers. Once industry is made aware that the other parties concerned are ready and willing to play their part, it will devote whatever time and energy may be necessary for the bringing into being of a properly standardized apprenticeship system.

In my opinion, the time for government, education and industry to get together in the co-ordination of a national apprenticeship program is *NOW*.

Apprenticeship in Canada

by A. W. CRAWFORD

Director of Training, Federal Department of Labour

Apprenticeship is probably the oldest form of industrial training. It has survived in various forms for over 4,000 years, and is still the most effective method for training young persons entering highly skilled trades.

Generally speaking, apprenticeship may be said to have passed through four stages since it was developed by the guilds in the twelfth century.

The control of apprenticeship by the guilds lasted about four hundred years. The guild system was more than a programme of training. It was also a preparation for citizenship. This system was admirably suited to the needs of domestic and small shop employment, but its success depended upon close personal relationship between the master and his apprentice. As the guilds expanded, they gradually developed monopolistic control and became more concerned about preserving the secrets and skills of their crafts than in training skilled workmen for the future. Entrance to the crafts became increasingly difficult and expensive.

This led to state control under which it was hoped to protect the interests of the public and individual apprentices by legislation and government regulation. Failure or inability to enforce these corrective regulations led to further abuses and apprenticeship gradually degenerated into a form of child slavery.

With the advent of machinery and large factories, following the industrial revolution, the old system broke down and, in the third stage, apprenticeship became a matter of free contract between the employer and the apprentice. Such instruction as was provided became the responsibility of fellow workers in the plant or on the job. Apprenticeship developed into a time-serving contract with little or no organized training. The apprentice picked up the trade through associations and experience gained on the job. Gradually the long earning periods of ten years or more were reduced to four or five years and pride of craftsmanship almost disappeared.

What might be termed the fourth stage began with the introduction of trade unionism. In so far as Canada is concerned, it started about the middle of the nineteenth century. As the workers in each skilled trade became organized, they introduced systems of union-controlled apprenticeship which

had been developed in other countries, principally the United States and the United Kingdom. Union cards gradually became recognized as evidence of competency and apprenticeship was the means of qualifying for such recognition. Most of the craft unions still exercise a measure of control over apprenticeship, but the system is not as effective as it was prior to World War I.

The advent and growth of industrial unions since the beginning of the twentieth century and the more recent expanding jurisdiction of craft unions has extended the field of organized labour into all types of industrial occupations. This expansion has complicated the problems of control of apprenticeship by the unions.

The widespread development during the past thirty years of vocational, technical and trade courses in private and publicly operated schools has tended to shift responsibility to the schools and governments.

Perhaps the most serious complication has been the development of mass production with the resulting demand for large numbers of skilled operators and production workers who can be fully trained in periods of from a few hours to a few months. This demand has been met by the development of short-term specialized trade courses which provide entrance, at self supporting wages, to a large number of trades and specialized industrial occupations.

The relatively low differential in wage rates between mechanics and skilled operators which has resulted from such specialized training is another factor which makes it difficult to promote or regulate apprenticeship in many industrial occupations.

Again we are faced with the necessity of making adjustments and developing new methods. If we are to avoid mistakes of the past, we should consider the lessons of history as indicated by the foregoing summary. It is apparent that monopolistic control leads to disintegration. I think it is equally clear that a regulated system with provision for periodic adjustment is necessary to protect the interests of all concerned and to keep pace with new developments. It would seem then that the future success of apprenticeship depends upon the extent to which industry (as represented by organized labour and employers associations) and government (as represented by the departments of labour and education) can co-operate in their efforts to develop better training methods.

Realizing the need for such co-operative action, and having in mind the importance to the national economy of developing and maintaining an adequate supply of skilled workers, the Federal Government, in 1945, entered into agreements with the provinces under which it shares equally with the provincial governments in the costs of establishing and maintaining co-operative training programmes for registered apprentices in designated trades.

Last year, the sum of \$1 million was allocated from Federal vocational training funds to assist the provinces in developing such training programmes.

The total number of indentured apprentices registered under the various acts at the beginning of the past year was approximately 12,000, an increase of nearly 2,000 since 1946. Of this number, over 8,500 attended full-time or part-time classes and received over 1 million student-hours of instruction in trade practice and related subjects at provincially operated training centres.

The agreements, which cover a ten-year period and are subject to renewal, cover apprenticeship in:

- (a) trades governed by provincial legislation;
- (b) trades under collective agreement between an employer and a trade union; and
- (c) private plans carried on by industry, if they conform with the regulations.

Most of the large industrial corporations and some of the smaller privately owned manufacturing plants in Canada have training programmes which vary in scope from brief induction courses for new employees to highly organized training programmes for beginners, skilled mechanics, and supervisory staff, requiring the full time services of a Director of Training and specially qualified instructors.

Some idea of the extent to which organized training in industrial manufacturing plants has been developed, or should I say neglected, is given by the results of a survey made by the Federal Department of Labour in 1952.

A questionnaire was sent to three industrial groups including all firms which had previously indicated that they had some form of organized training programme in their plants.

Of 473 plants employing 70,000 production workers in the iron and steel industry, only 67 reported having organized apprenticeship training programmes. These firms employed 20,000 production workers of whom over 4,000 were classified as tradesmen. The number of apprentices employed in these firms was 394 which gives a ratio of approximately 1 apprentice to each 11 tradesmen. The ratio of apprentices to skilled workers in the whole industry was estimated at approximately 1 to 38.

The situation in the transportation group is somewhat better in that three-quarters of the firms appear to be training apprentices but the overall ratio is approximately 1 to 48.

The plants in the electrical group are doing considerably better in that three-quarters of the firms provide apprenticeship training and the ratio of apprentices to mechanics is about 1 to 22.

Employers' organizations are becoming aware of the problem and some of them are taking steps to increase the number of trainees. For example, the Canadian Construction Association has recently appointed a full-time field officer to visit its members for the purpose of stimulating interest and studying the need for improved methods of training.

The Ontario Industrial Education Council, which represents all parties concerned with industrial training, is endeavouring to stimulate apprenticeship training in the smaller industrial plants of the Province. Apprenticeship packages consisting of all necessary forms and outlines of training programmes are being distributed.

In May 1952, the Federal Department of Labour convened the First National Conference on Apprenticeship which was attended by 65 official delegates and over 20 observers from all provinces representing management, organized labour, training officials in industry, educators, and provincial government officials responsible for apprenticeship activities.

On the advice of the conference, the Federal Government appointed the National Apprenticeship Training Advisory Committee consisting of a chairman and ten members representing all interested groups. The chairman is Mr. Percy Bengough, President of the Trades and Labour Congress of Canada.

Consideration is being given by the Committee to the desirability and feasibility of establishing national standards of apprenticeship, particularly with respect to definitions of trades and contents of training courses for apprentices.

As a first step in this direction, the Department of Labour is co-operating with provincial officials and others concerned in making a number of trade analyses which will set forth in a uniform manner the skills, trade knowledge, and related information which are acceptable to all concerned as being necessary for the complete training of an apprentice in each trade. These analyses will be used by the responsible provincial authorities in determining the nature and extent of the training to be given to apprentices, both on-the-job and in school classes.

Another project being undertaken by the Department is the development of a nation-wide plan under which manufacturers and dealers will supply (on the basis of loan, gift, or special purchase price) equipment and teaching aids for apprenticeship training centres operated by the provincial governments. Under this plan, manufacturers and suppliers in the automotive industry are co-operating through a central agency in Ottawa in meeting the equipment needs of training institutions as submitted through one co-ordinating officer in each province. Arrangements are also being made for apprentice instructors to attend special classes conducted by manufacturers for the training of dealers and service managers.

It is too early to judge the ultimate success of this project but all concerned are pleased with the results to date.

I think it is evident from the foregoing review that no single programme of apprenticeship will meet the requirements and conditions of modern in-

dustry. Plans for future development must be broader in extent than any which have been devised in the past, and should be capable of periodic adjustments to meet new conditions.

This does *not* mean that apprenticeship is no longer required. It *does* indicate, however, that the narrow conception of apprenticeship, as a period of four or five years of service under contract with an individual employer for young persons between the ages of 16 and 21 years is outmoded. This idea must be replaced by a broader conception to include various types of training programmes which will meet the immediate requirements and continuing needs of trainees in those occupations which require a high degree of skill plus technical information and related knowledge. Such training can best be given by a combination of supervised, organized training on-the-job and closely related training in schools.

If we are to succeed in this co-operative endeavour, employers must provide adequate opportunities for training on-the-job and encourage apprentices to attend classes during working hours as well as on their own time. Unions must be concerned about future requirements as well as immediate needs for skilled workers and should do all they can to develop and maintain high standards of production and workmanship. Schools must provide acceptable pre-employment training, for which credit can be given, as well as post-employment instruction directly related to on-the-job training. Governments, at all levels, must assist through legislative and financial measures which will encourage the development of training facilities and provide a more equitable distribution of opportunities for training.

A good beginning has been made, but we have a long way to go before Canada will have a modern system of apprenticeship capable of meeting the needs of all branches of industry in a rapidly expanding and changing economy.

EDMOND CLOUTIER, C.M.G., O.A., D.S.P.
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Apprentice